

AN ESSAY

ON

CHOREA SANCTI VITI.

SUBMITTED AS AN

INAUGURAL THESIS,

TO THE EXAMINATION OF THE

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(*Pro tempore*),

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Member of the Philadelphia Medical Society.

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TO
DOCTORS JOSEPH HAYS,
AND
THOMAS AUGUSTIN CLAIBORNE,
OF
NASHVILLE, TENNESSEE,
THIS ESSAY
IS RESPECTFULLY DEDICATED
BY THEIR MUCH OBLIGED PUPIL,
THE AUTHOR.

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THE subject of the following pages is an inquiry into the affection denominated *Chorea St. Viti*, or the dance of St. Vitus; and although my principal design is to give a history of the epidemic chorea, at present prevailing in the States of Kentucky, Tennessee and Virginia, I shall also transcribe the substance of what has heretofore been written on the subject; generally using the language of each author.

The first account we have of this disease is by Horstius, who says that "certain virgins yearly visited the chapel of St. Vitus near Ulm, who on those occasions exercised themselves day and night in dancing, being disordered in their minds; at length falling down in ecstasy, and were thus relieved until the next spring, when they were again affected in the same manner; which always returned at that season of the year afterward." And hence the very appropriate name of *Chorea St. Viti*. Dr. Mead considers it a paralytic disease, and speaks of it as follows: "I look on chorea as a paralytic affection, arising from a relaxation of the muscles, which being unable to perform their functions in moving the limbs, shake them irregularly by jerks. Is for the most part a slight evil, and commonly attacks weak habits of body; girls more frequently than boys, and seldom adults. Wherefore I never found it difficult to be cured by cold-bath and chalybeates."

Dr. Sydenham says, "It is a kind of convulsion, manifesting itself by a halting or unsteadiness of one of the legs, and at the same time the arm of that side being affected by convulsive contractions." He treated it by bleeding, purging, etc., and this

practice he repeated for several springs, at the season it first appeared, with the view to prevent its return.

He seems to have thought it very nearly allied to epilepsy, differing principally from it in attacking only children, whereas epilepsy commonly affects adults; and concludes that it is probable the same treatment would be successful in that disease.

Dr. Cullen denominates it a convulsive disease, and adds, "with very few exceptions it attacks boys and girls from the age of ten to fourteen years;" that "it comes on always before the age of puberty, and rarely continues beyond that period." After describing it nearly in Dr. Sydenham's words, he continues, "it appears to me that the will often yields to the convulsive motions, as to a propensity, and thereby they are often increased while the patient seemed to be pleased with increasing the surprise and amusement which his motions occasion in the by-standers. In this disease the mind is often affected with some degree of fatuity, and often shows the same varied, desultory and causeless emotions which occur in hysteria." He adds, "and there have been instances of this disease consisting of such convulsive motions, appearing as an epidemic in a certain corner of the country. In such instances persons of different ages are affected, and may seem to make (he might have said do actually make,) an exception to the general rule above laid down; but still the persons are for the most part the young of both sexes, and of the more manifestly movable constitutions." In some plethoric habits he found small bleedings and mild purgings of service; but, in general, extensive evacuations, especially by bleeding, were very injurious. It sometimes resisted every remedy for many months, but often readily yielded to tonics: as the Peruvian bark and chalybeates. One case, which had long resisted many remedies, he cured by repeated electrical shocks. Dr. DeHlean also cured several persons by this remedy.

Dr. Darwin says, "in Chorea St. Viti the patient can, at any time, lie still in bed, which shows the motions not to be convulsive; and he can at different times voluntarily exert every muscle of the body, which evinces that they are not paralytic.

This disease is frequently left after the itch has been too hastily cured. A girl about eighteen, after wearing a mercurial girdle to cure the itch, acquired the Chorea St. Viti in so general a manner that her speech became affected as well as her limbs, and there was evidently a disunion of the common train of ideas; as the itch was still among the children of the family, she was advised to take her sister as a bed-fellow, and thus received the itch again, and the dance of St. Vitus gradually ceased." He advises the use of calomel for some time, steel, bark, warm bath, cold bath, opium, venesection (once at the beginning of the disease), and electricity. Perpetual, slow and repeated efforts to move the limbs in the designed direction.

The chorea which is more particularly the subject of this dissertation, made its appearance during the summer of 1803, in the neighborhood of Maryville, (Tennessee,) in the form of an epidemic. Previously to entering on its history, I think it necessary to premise a few cursory remarks on the mode of life of those amongst whom it originated, for some time before the appearance of the disease.

I suppose there are but few individuals in the United States who have not at least heard of the unparalleled blaze of enthusiastic religion which burst forth in the western country about the year 1800; but it is perhaps impossible to have a competent idea of its effects, without personal observation. This religious enthusiasm traveled, like electricity, with astonishing velocity, and was felt almost *instantaneously*, in every part of the States of Tennessee and Kentucky. It often proved so powerful a stimulus that every other entirely lost its effect, or was but feebly felt. Hence that general neglect of earthly things which was observed, and the almost perpetual attendance at places of public worship. Their churches are in general small and every way uncomfortable; the concourse of people on days of worship, particularly of extraordinary meetings, was very numerous, and hundreds who lived at too great a distance to return home every evening, came supplied with provisions, tents, etc., for their sustenance and accommodation during the continuance of the

meeting, which commonly lasted from three to five days. They as well as many others, remained on the spot day and night, the whole or greater part of this time worshipping their Maker almost incessantly. The outward expressions of their worship consisted chiefly in alternate crying, laughing, singing and shouting, and at the same time performing that great variety of gesticulation which the muscular system is capable of producing. It was under these circumstances that some found themselves unable by voluntary efforts to suppress the contraction of their muscles, and to their own astonishment and the diversion of many of the spectators, they continued to act from *necessity* the curious character which they had commenced from *choice*.

The disease no sooner appeared, than it spread with rapidity through the medium of the principle of imitation; thus it was not uncommon for an affected person to communicate it to the greater part of a crowd, who, from curiosity or other motives, had collected around him. It is at this time in almost every part of Tennessee and Kentucky, and in various parts of Virginia, but it is said not to be so contagious (or readily communicated) as at its commencement. It attacks both sexes and every constitution, but evidently more readily those who are enthusiasts in religion, such as those above described, and females, children of six years of age, and adults of sixty have been known to have it, but a great majority of those affected are from fifteen to twenty-five. The muscles generally affected are those of the trunk, particularly those of the neck, sometimes those of the superior extremities, but very rarely, if ever, those of the inferior. The contractions are sudden and violent, such as are denominated convulsive, being sometimes so powerful when in the muscles of the back that the patient is thrown to the ground, where for some time his motions more resemble those of a live fish when thrown on land, than any thing else to which I can compare them.

This, however, does not often occur, and never, I believe, except at the commencement of the disease. The patients in general are capable of standing and walking, and many after it

has continued a short time, can attend to their business, provided it is not of a nature requiring much steadiness of body. They are incapable of conversing with any degree of satisfaction to themselves, or company, being continually interrupted by those irregular contractions of their muscles, each causing a grunt, or forcible expiration; but the organs of speech do not appear to be affected, nor has it the least influence on the mind. They have no command over their actions by any effort of volition, nor does lying in bed prevent them, but they always cease during sleep.* The disease has remissions and exacerbations, which, however, observe no regularity in their occurrence or length of duration. During the intermission a paroxysm is often excited at the sight of a person affected, but more frequently by the common salute of shaking hands. The sensations of the patients in a paroxysm are generally agreeable, which the enthusiastic class often endeavor to express by laughing, shouting, dancing, etc., etc.

It has not proved mortal in a single instance within my knowledge, but becomes lighter by degrees, and finally disappears. In some instances, however, of long duration, it is attended with some degree of melancholia, which seems to arise entirely from the patient's reflections, and not directly from the disease. The state of the atmosphere has no influence over it, as it rages with equal violence in summer and winter, in moist and in dry air.

Having adduced various passages containing the substance of what has been written on affections receiving the name of Chorea St. Viti, and given a history of the American Chorea, I think it unnecessary to occupy room in making comparisons of them for the purpose of deciding whether or not they are the same. I shall, therefore, leave the reader to determine this point

*I have lately been informed that some have been known to have them during sleep, but have not been able to learn whether or not, previous to having the disease they were subject to muscular motions during this period. I think it is very probable they were.

†Some who took the disease in 1803, have not yet entirely got rid of it, but these instances of its long continuance are very few.

for himself. As theory or speculation has of late become a principal part of the science of medicine (as indeed of every other science), I fear it would be deemed an unpardonable omission were I to omit it entirely. From this consideration, and a conviction of the universality of the laws of nature, I shall in as few words as possible, give the outlines of the theory I have adopted to explain the phenomena of the epidemic above described. It is not only unnecessary but impracticable, within the bounds allotted to this essay, to enter into an examination of every metaphysical and physiological point which is connected with the present subject; but there being a sufficient number for my purpose which have been examined and by many determined upon, I shall take the liberty of assuming them as data.

First, I take as granted that the frame and nerves, constituting the nervous system, are so organized that when acted upon by external bodies, denominated stimuli, they are capable of taking on perhaps an infinite variety of motions which constitute our ideas of matter and its properties.

Secondly, That this organization enables the brain to repeat any series of motions in the same order in which they had previously been performed, whenever any one of such train of motions by an exciting cause is produced.

Thirdly, That the muscles are caused to contract through the medium of the nerves, by sympathy of motion, and not as the ingenious Dr. Darwin supposes, by secreted sensorial power. And, finally, that every phenomena of the animal (and vegetable) creation, results from motion produced by the operation of one portion of matter upon another.

These positions being granted, it will then follow that the brain and nerves cannot act without the aid of stimuli; that unless the brain perform its functions the muscles must be quiescent, and of consequence all the phenomena of life, as thought, muscular motion, etc., if they previously existed, must now cease. Or, in the language of the ingenious but unfortunate Dr. Brown, I believe life to be a *forced state*. Some motion of the brain accidentally causing the contraction of a muscle,

becomes associated with it and ever afterward causes it to take on action. Thus each muscle of the body becomes associated with some motion of the brain, for those actions which at first from accident took place in succession or rotation, from a law of the brain above mentioned, always occur in the same order, so that if at any time one of such motions be produced, the others follow as necessarily as the sinking of a heavier solid in a lighter fluid, unless interrupted by some more firmly established train. It appears that the facility with which these trains of associate motions are produced, depends entirely on the state of the brain, and on the degree of stimuli which produced them. That is, that when the brain is most excitable, and the stimuli applied most powerfully, the trains of motion will be performed with the greatest energy, and afterward the more readily occur.

This disease then, I believe is not produced, as Dr. Darwin supposed, by dis severed associate motions of sensation, but by the firm establishment of those associations rendering them more easily performed by the brain than any other, which of course continue to take place without being interrupted, proceed again when an exciting cause is applied. Nothing more happens here than when the trains of associate motions which took place on the death of a beloved relation or bosom friend, in spite of every effort to repel them, continually harass us. The circumstances under which the disease took place, render this explanation, in my opinion, the least exceptionable of the two. I have shown the muscular system to have been in a state highly irritable, and the brain, from the alternate hope and fear of future reward and punishment,* must have been highly stimulated; the result must of necessity have been powerful action and a firm establishment of such trains of motion as was then performed. The muscles of the trunk being more readily affected than those of

* With due deference to the opinions of Drs. Cullen, Rush, &c., I must acknowledge that to me, fear appears to rank amongst the most powerful stimuli, and like every other produces a sedative effect only when in excess. Thus it causes great muscular exertion, extreme debility, and even death, according to its extreme force. Like opium, digitalis, etc., it has, from its sudden and violent effects, been generally thought a sedative.

the extremities, also tend to strengthen the theory; for the former must be much more irritable than the latter, being subject to less frequent and less violent contractions. The disease thus produced in some, was excited in others by the principle of imitation, a phenomenon which I shall not attempt to explain farther than it has been done in the above theory. Facts which confirm the existence of such a law or principle in the animal economy, are almost daily presented to our observation. The aptitude of persons to become affected by those motions generally denominated tricks, who spend much of their time with those who have them, is well known. And there is scarcely a school boy who has not observed, that if, in a large company, one person gapes or yawns, it is often produced in most of those present. In the Pennsylvania Hospital, there occurred a few years since a still more remarkable instance of its existence. An epileptic patient was brought into the house and was seized in the long room with a fit, and a number of convalescents having collected around him, several of them were in like manner seized with convulsions. In this way we are able to account for a very curious fact—which I have not observed noticed by any writer—which is the resemblance that often takes place between man and wife, a resemblance which before their marriage did not exist. I have no doubt that those who have not been in the habit of attending to such trifles, will consider this fact as the chimera of a theorizing brain; but this does not render it the less true.

From some superstitious motives which were entertained by the common people respecting the epidemic disease, medical aid has been sought for but by few, and until very lately was obtained by none. Those who have been cured of it were heated by rubefacients to the whole body, at the same time taking internally stimulant medicines. Some have been known to prevent a paroxysm by taking at its commencement large quantities of ardent spirits, but they received no permanent benefits from this practice. The plan of treatment, best according with the theory I have delivered, would be to remove the

patient from among those who have the disease, to keep his mind occupied on new and agreeable subjects as much as possible, which would be best done by traveling with an agreeable companion through a highly cultivated or wild mountain country, visiting natural and artificial curiosities, particularly of the more sublime kind. By these means new trains of associate motions would be produced, which from their novelty, etc., might at length overcome those which produced the disease, and the excitability of the brain would thus be expended. The cure by rubefacients is also agreeable to this theory.

Having now finished the consideration of the subject of this dissertation, it only remains for me to express my grateful acknowledgments to the medical professors of this university, for the polite and friendly attention with which they have individually honored me.

[FINIS.]

I have caused the *Inaugural Thesis* of my old friend, Dr. Felix Robertson, to be transcribed, have collated it carefully with the transcript, corrected all the discrepancies I discovered, and believe the foregoing to be a true copy. Witness my hand, at West Chester, Pennsylvania, this 18th day of January, 1859
WM. DARLINGTON, M.D.

